

**REMARKS/ARGUMENT****Regarding the Claims in General:**

Claims 1, 3, 4, 6-19, and 23-56 are now pending. Claims 1, 3, 4, 6-19, and 23-52 are as they appeared in applicants' communication dated October 31, 2005. New claims 53- 56 have been added to provide applicants with additional protection to which they appear entitled in view of the prior art. Claims 53 and 55 are respectively identical in substance to claims 1 and 52 as previously presented, except that the dimensions of the surface roughness have been omitted. Claims 54 and 56 are respectively dependent on claims 53 and 55, and further specify that the surface roughness on one surface is pressed into the opposing surface.

**Regarding the Patentability of Claims 53-56 Over the Prior Art:**

New claims 53-56 are neither anticipated by nor rendered obvious over Lauener U.S. Patent 4,773,468 (Lauener) or Hartz U.S. Patent 5,823,936 (Hartz), whether considered individually or in combination.

Claim 53 recites:

... a roll core having an outer lateral surface:

an annular roll shell which surrounds the roll core and includes an inner lateral surface opposite the outer lateral surface of the core, wherein:

at least one of the lateral surfaces has elevations and depressions forming a surface roughness thereon;

at least some of the elevations and depressions are oriented in the direction of a rotational axis of the casting-roll; and

the roll shell is shrunk onto the roll core so that the outer surface of the roll core and the inner surface of the roll shell are in contact substantially over their entire surfaces.

Even without limitation as to the dimensions of the surface roughness, the construction recited in claim 53 is not anticipated by Lauener. As pointed out in the communication dated October 31,

2005, Fig. 1 of Lauener illustrates a conventional construction with a roll core 3, a shell 1, and longitudinal grooves 2 for flow of coolant. The illustrated structure does not meet the requirements for elevations and depressions on one of the lateral surfaces forming a surface roughness thereon, or that the roll shell be shrunk onto the roll core so that the outer surface of the roll core and the inner surface of the roll shell are in contact substantially over the respective entire surfaces.

For one thing, Lauener's grooves can not, in any reasonable sense, be regarded as a surface roughness. Fig. 1 illustrates nothing more than a smooth surface with semicircular grooves which occupy at least half of the surface area. Nor is there anything else in Lauener which can reasonably be regarded as a surface roughness.

Moreover, even though the shell of Lauener's Fig. 1 is shrink fitted onto the core, the outer surface of the roll core and the inner surface of the roll shell are not in contact substantially over the respective entire surfaces, since at least the portions of the core surface forming the inner surfaces grooves are not in contact with the inner surface of the shell.

Of course, the construction which is actually the subject of Laucner is even more remote, for the reasons also stated in the communication dated October 31, 2005.

Nor does Hartz remedy the deficiencies in Lauener discussed above. The Hartz device is entirely conventional except in the use of overlays of stainless steel of different hardness. Hartz neither discloses, teaches, nor suggests anything about a shrink fitted connection between two roll surfaces in which the outer surface of the roll core and the inner surface of the roll shell are in contact substantially over the respective entire surfaces, and in which one of the surfaces has a surface roughness thereon.

New method claim 55 should also be allowed for all the reasons stated above.

Furthermore, new claims 53 and 55 are also allowable over the other references cited in the international search report dated 13 October, 2003, which accompanied the application as filed (and was included in the IDS also accompanying the application). The most pertinent of these, DE-C 41 30 202 and DE-C 40 27 225, are both cited in the application on page 2. DE-C 41 30 202 discloses a thermal shrinking process but this shrinking process differs from the present invention because there is a brazing solder between the roll core and the shell.

DE-C 40 27 225 discloses a prior art document (Japanese patent document Sho-52-40608) at column 1, lines 16-25, but the cited patent number appears to be incorrect. The cited document as described, however, discloses a supporting and guiding roller used in a conventional continuous casting installation comprising a roller core, an inner roller shell and an outer roller shell. The outer roller shell is drawn on the inner roller shell by means of a conventional shrink-fit connection. The surface roughness of interacting parts is the same in a conventional shrink-fit connection, and the two parts interact alternately in the same way. Details regarding surface roughness are not disclosed in DE-C 40 27 225. Therefore, the concept of the surface roughness on (at least) one opposed surface is not disclosed, taught or suggested.

Claims 54 and 56 are dependent on claims 53 and 55 respectively, and are patentable for all the reasons stated above. In addition, these claims further recite that surface roughness on the one surface is pressed into the opposing surface. There is definitely no disclosure, teaching or suggestion of this in any known prior art.

In view of the foregoing, favorable reconsideration and allowance of this application are respectfully solicited.

I hereby certify that this correspondence is being transmitted by Facsimile to (571) 273-8300 addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

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LAH:lac

Respectfully submitted,

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